

Exhibit F

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 05/30/2000
001274546 - 2782901

FOURTH AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
SONUS NETWORKS, INC.

Sonus Networks, Inc. (the "Corporation"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "General Corporation Law"), hereby certifies as follows:

FIRST: The name of the Corporation is Sonus Networks, Inc. The original Certificate of Incorporation of the Corporation was filed by the Corporation with the Secretary of State of Delaware on August 7, 1997. The original Certificate of Incorporation was subsequently amended and restated on September 23, 1998, on September 10, 1999 and again on March 9, 2000 (the original Certificate of Incorporation, as amended and restated, the "Original Certificate of Incorporation").

SECOND: This Fourth Amended and Restated Certificate of Incorporation: (i) was duly adopted in accordance with the provisions of Sections 242 and 245 of the General Corporation Law; and (ii) was approved by written consent of a majority of the stockholders of the Corporation given in accordance with the provisions of Section 228 of the General Corporation Law.

THIRD: The text of the Original Certificate of Incorporation of the Corporation, as heretofore amended, is hereby further restated and amended to read in its entirety as follows:

FOURTH: This Fourth Amended and Restated Certificate of Incorporation, in accordance with the provisions of Section 103 of the General Corporation Laws, shall be effective on May 31, 2000, at 5:00 p.m., Eastern Time.

ARTICLE I
Name

The name of the corporation (the "Corporation") is Sonus Networks, Inc.

ARTICLE II
Registered Agent

The address of the Corporation's registered office in the State of Delaware is 1013 Centre Road in the City of Wilmington, County of New Castle; and the name of its registered agent is Corporation Service Company.

ARTICLE III

Purpose

The nature of the business or purposes to be conducted or promoted by the Corporation is as follows:

To engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

ARTICLE IV

Capital Stock

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 305,000,000 shares, consisting solely of:

300,000,000 shares of common stock, par value \$0.001 per share ("Common Stock"); and

5,000,000 shares of preferred stock, par value \$0.01 per share ("Preferred Stock").

The following is a statement of the powers, designations, preferences, privileges, and relative rights in respect of each class of capital stock of the Corporation.

A. COMMON STOCK.

1. General. The voting, dividend and liquidation rights of the holders of Common Stock are subject to and qualified by the rights of the holders of Preferred Stock.

2. Voting. The holders of Common Stock are entitled to one vote for each share held at all meetings of stockholders. There shall be no cumulative voting.

3. Dividends. Dividends may be declared and paid on the Common Stock from funds lawfully available therefor if, as and when determined by the Board of Directors and subject to any preferential dividend rights of any then outstanding shares of Preferred Stock.

4. Liquidation. Upon the dissolution or liquidation of the Corporation, whether voluntary or involuntary, holders of Common Stock will be entitled to receive all assets of the Corporation available for distribution to its stockholders, subject to any preferential rights of any then outstanding shares of Preferred Stock.

B. PREFERRED STOCK.

Shares of Preferred Stock may be issued from time to time in one or more series, each of such series to have such powers, designations, preferences, and relative, participating, optional, or other special rights, if any, and such qualifications and restrictions, if any, of such preferences and rights, as are stated or expressed in the resolution or resolutions of the Board of Directors providing for such series of Preferred Stock. Different series of Preferred Stock shall not be

construed to constitute different classes of shares for the purposes of voting by classes unless expressly so provided in such resolution or resolutions.

Authority is hereby granted to the Board of Directors from time to time to issue the Preferred Stock in one or more series, and in connection with the creation of any such series, by resolution or resolutions to determine and fix the powers, designations, preferences, and relative, participating, optional, or other special rights, if any, and the qualifications and restrictions, if any, of such preferences and rights, including without limitation dividend rights, conversion rights, voting rights (if any), redemption privileges, and liquidation preferences, of such series of Preferred Stock (which need not be uniform among series), all to the fullest extent now or hereafter permitted by the General Corporation Law of Delaware. Without limiting the generality of the foregoing, the resolution or resolutions providing for the creation or issuance of any series of Preferred Stock may provide that such series shall be superior to, rank equally with, or be junior to the Preferred Stock of any other series, all to the fullest extent permitted by law. No resolution, vote, or consent of the holders of the capital stock of the Corporation shall be required in connection with the creation or issuance of any shares of any series of Preferred Stock authorized by and complying with the conditions of this Amended and Restated Certificate of Incorporation, the right to any such resolution, vote, or consent being expressly waived by all present and future holders of the capital stock of the Corporation.

Any resolution or resolutions adopted by the Board of Directors pursuant to the authority vested in them by this Article IV shall be set forth in a certificate of designation along with the number of shares of stock of such series as to which the resolution or resolutions shall apply and such certificate shall be executed, acknowledged, filed, recorded, and shall become effective, in accordance with §103 of the General Corporation Law of the State of Delaware. Unless otherwise provided in any such resolution or resolutions, the number of shares of stock of any such series to which such resolution or resolutions apply may be increased (but not above the total number of authorized shares of the class) or decreased (but not below the number of shares thereof then outstanding) by a certificate likewise executed, acknowledged, filed and recorded, setting forth a statement that a specified increase or decrease therein has been authorized and directed by a resolution or resolutions likewise adopted by the Board of Directors. In case the number of such shares shall be decreased, the number of shares so specified in the certificate shall resume the status which they had prior to the adoption of the first resolution or resolutions. When no shares of any such class or series are outstanding, either because none were issued or because none remain outstanding, a certificate setting forth a resolution or resolutions adopted by the Board of Directors that none of the authorized shares of such class or series are outstanding, and that none will be issued subject to the certificate of designations previously filed with respect to such class or series, may be executed, acknowledged, filed and recorded in the same manner as previously described and it shall have the effect of eliminating from this Amended and Restated Certificate of Incorporation all matters set forth in the certificate of designations with respect to such class or series of stock. If no shares of any such class or series established by a resolution or resolutions adopted by the Board of Directors have been issued, the voting powers, designations, preferences and relative, participating, optional or other rights, if any, with the qualifications, limitations or restrictions thereof, may be amended by a resolution or resolutions adopted by the Board of Directors. In the event of any such amendment, a certificate which (i) states that no shares of such class or series have been issued, (ii) sets forth the copy of the amending resolution or resolutions and (iii) if the designation of such class or series is being changed, indicates the original designation and the new designation, shall be executed,

acknowledged, filed, recorded, and shall become effective, in accordance with §103 of the General Corporation Law of the State of Delaware.

ARTICLE V
Board of Directors

The following provisions are inserted for the management of the business and for the conduct of the affairs of the Corporation and for defining and regulating the powers of the Corporation and its directors and stockholders and are in furtherance and not in limitation of the powers conferred upon the Corporation by statute:

(a) The Board of Directors shall be divided into three classes of directors, such classes to be as nearly equal in number of directors as possible, having staggered three-year terms of office, the term of office of the directors of the first such class to expire as of the first annual meeting of the Corporation's stockholders following the closing of the Corporation's first public offering of shares of Common Stock registered pursuant to the Securities Act of 1933, as amended, those of the second class to expire as of the second annual meeting of the Corporation's stockholders following such closing, and those of the third class as of the third annual meeting of the Corporation's stockholders following such closing, such that at each annual meeting of stockholders after such closing, nominees will stand for election to succeed those directors whose terms are to expire as of such meeting. Any director serving as such pursuant to this paragraph (b) of Article V may be removed only for cause and only by the vote of the holders of 66 2/3% of the shares of the Corporation's stock entitled to vote for the election of directors.

(b) The Board of Directors shall have the power and authority: (i) to adopt, amend or repeal By-Laws of the Corporation, subject only to such limitations, if any, as may be from time to time imposed by other provisions of this Certificate, by law, or by the By-Laws; and (ii) to the full extent permitted or not prohibited by law, and without the consent of or other action by the stockholders, to authorize or create mortgage, pledges or other liens or encumbrances upon any or all of the assets, real, personal or mixed, and franchises of the Corporation, including after-acquired property, and to exercise all of the powers of the Corporation in connection therewith.

ARTICLE VI
Limitation of Liability

No director of the Corporation shall be personally liable to the Corporation or to any of its stockholders for monetary damages for breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability; provided, however, that to the extent required from time to time by applicable law, this Article VI shall not eliminate or limit the liability of a director, to the extent such liability is provided by applicable law, (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of Title 8 of the Delaware Code, or (iv) for any transactions from which the director derived an improper personal benefit. No amendment to or repeal of this Article VI shall apply to or have any effect on the liability or alleged liability of any director for or with respect to any

acts or omissions of such director occurring prior to the effective date of such amendment or repeal.

ARTICLE VII
Indemnification

The Corporation shall, to the fullest extent permitted by Section 145 of the General Corporation Law of Delaware, as amended from time to time, indemnify each person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was, or has agreed to become, a director or officer of the Corporation, or is or was serving, or has agreed to serve, at the request of the Corporation, as a director, officer or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgements, fines and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with such action, suit or proceeding and any appeal therefrom.

Indemnification may include payment by the Corporation of expenses in defending an action or proceeding in advance of the final disposition of such action or proceeding upon receipt of an undertaking by the person indemnified to repay such payment if it is ultimately determined that such person is not entitled to indemnification under this Article VII, which undertaking may be accepted without reference to the financial ability of such person to make such repayment.

The Corporation shall not indemnify any such person seeking indemnification in connection with a proceeding (or part thereof) initiated by such person unless the initiation thereof was approved by the Board of Directors.

The indemnification rights provided in this Article VII (i) shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any law, agreement or vote of stockholders or disinterested directors or otherwise, and (ii) shall inure to the benefit of the heirs, executors and administrators of such persons. The Corporation may, to the extent authorized from time to time by its Board of Directors, grant indemnification rights to other employees or agents of the Corporation or other persons serving the Corporation and such rights may be equivalent to, or greater or less than, those set forth in this Article VII.

ARTICLE VIII
Compromises and Arrangements

Whenever a compromise or arrangement is proposed between the Corporation and its creditors or any class of them and/or between the Corporation and its stockholders or any Class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of the Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for the Corporation under the provisions of §391 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for the Corporation under the provisions of §279 of Title 8 of the Delaware Code, order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, to be summoned in such a

manner as the said court directs. If a majority of the number representing three-fourths (3/4ths) in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of the Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of the Corporation as a consequence of such compromise or arrangement, the compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all creditors or class of creditors, and/or stockholders or class of stockholders of the Corporation, as the case may be, and also on the Corporation.

ARTICLE IX
Certain Transactions

The Board of Directors, when considering a tender offer or merger or acquisition proposal, may take into account factors in addition to potential economic benefits to stockholders, including without limitation (i) comparison of the proposed consideration to be received by stockholders in relation to the then current market price of the Corporation's capital stock, the estimated current value of the Corporation in a freely negotiated transaction, and the estimated future value of the Corporation as an independent entity, (ii) the impact of such a transaction on the employees, suppliers, and customers of the Corporation and its effect on the communities in which the Corporation operates, and (iii) the impact of such a transaction on the unique corporate culture and atmosphere of the Corporation.

ARTICLE X
Stockholder Action

Any action required or permitted to be taken by the stockholders of the Corporation may be taken only at a duly called annual or special meeting of the stockholders, and not by written consent in lieu of such a meeting, and special meetings of stockholders may be called only by the Chairman of the Board of Directors, the President, or a majority of the Board of Directors.

ARTICLE XI
Amendments

The affirmative vote of the holders of at least 66 2/3% of the outstanding voting stock of the Corporation (in addition to any separate class vote that may in the future be required pursuant to the terms of any outstanding Preferred Stock) shall be required to amend or repeal the provisions of Articles IV (to the extent it relates to the authority of the Board of Directors to issue shares of Preferred Stock in one or more series, the terms of which may be determined by the Board of Directors), V, VII, IX, X, or XI of this Fourth Amended and Restated Certificate of Incorporation or to reduce the numbers of authorized shares of Common Stock or Preferred Stock.

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IN WITNESS WHEREOF, the undersigned has caused this Fourth Amended and Restated Certificate of Incorporation to be duly executed on its behalf as of May 30, 2000.

SONUS NETWORKS, INC.

By:

Hassan Ahmed
Hassan Ahmed
President

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 05/30/2001
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CERTIFICATE OF AMENDMENT

OF

FOURTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

OF

SONUS NETWORKS, INC.

Sonus Networks, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "Corporation"), DOES HEREBY CERTIFY:

FIRST: That at a meeting of the Board of Directors of the Corporation, resolutions were duly adopted setting forth a proposed amendment to the Fourth Amended and Restated Certificate of Incorporation of said corporation, declaring said amendment to be advisable and directing the holders of Common Stock of said corporation to consider said amendment and to indicate their approval and adoption thereof. The resolution setting forth the proposed amendment is as follows:

RESOLVED: That the first sentence of Article IV of the Fourth Amended and Restated Certificate of Incorporation of the Corporation be, and it hereby is, amended to read as follows:

The total number of shares of capital stock which the corporation shall have authority to issue is 605,000,000, consisting solely of:

600,000,000 shares of common stock, par value \$0.001 per share ("Common Stock"); and

5,000,000 shares of preferred stock, par value \$0.01 per share ("Preferred Stock").

RESOLVED: That except as expressly amended hereby no other aspect of such Article IV shall be modified hereby.

SECOND: That thereafter, pursuant to said resolutions of its Board of Directors, the holders of record of not less than a majority of the issued and outstanding shares of Common Stock of said Corporation, representing not less than the minimum number of votes necessary to authorize and take such action, duly adopted such an amendment at the Annual Meeting of the Shareholders in accordance with Sections 211 and 222 of the General Corporation Law of the State of Delaware.

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THIRD: That said amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, the Corporation has caused this certificate to be signed by Stephen J. Nill, its Vice President Finance and Chief Financial Officer, this 29th day of May, 2001.

SONUS NETWORKS, INC.

BY: /S/ Stephen J. Nill

Stephen J. Nill
Vice President Finance and Administration
and Chief Financial Officer